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Comments on the Supplement to the Draft Environmental Impact Statement (SDEIS) For a Geologic Repository for the Disposal of Spent Nuclear Fuel and High Level Radioactive Waste at Yucca Mountain, Nye County, Nevada

Prepared by
Kevin Kamps
Nuclear Waste Specialist
Nuclear Information & Resource Service
1424 16th St., NW, Suite 404
Washington, D.C. 20036
Ph. 202.328.0002
Fax 202.462.2183

1 This SDEIS is not sufficient. It does not specify a final design alternative for the Proposed Action, to build, run, monitor, and close permanent burial site for dumping irradiated nuclear fuel and high-level radioactive waste. Rather, the SDEIS lays out a spectrum of design options and repository operations criteria to be mixed and matched to yield two alternative design choices: the first, above-boiling point temperatures at the emplacement tunnel walls; the second, below boiling point temperatures at the surface of the waste burial cask. The SDEIS claims that these options and criteria are bounding for the eventual final design, that the entire range of possible impacts to the environment and public health can be determined. But how can potential impacts be compared, when the SDEIS fails to identify which specific options will be employed in the actual final design? The original DEIS in the summer of 1999 also claimed to be bounding. However, this SDEIS contains impacts beyond the bounds of the DEIS. If and when the "flexible" repository design "evolves" still further, the Final Environmental Impact Statement will most likely also surpass the present bounds identified in this SDEIS.

The SDEIS introduces the option of cooling up to 40,000 tons of irradiated nuclear fuel for up to 50 years. The vision of 4,500 dry cask storage containers on a 200 acre pad surpasses in size even the proposed Private Fuel Storage dump at the Skull Valley Goshutes Indian Reservation in Utah (which envisions 4,000 containers on a 100 2... acre pad). Incredibly, this SDEIS overlooks the gravest potential impact to the environment and public health that such an unprecedented facility risks – disruption from earthquakes. In fact, Yucca Mountain is so seismically active (625 earthquakes registering greater than 2.5 on the Richter scale within 50 miles of Yucca Mountain just over the past 25 years; a 5.6 earthquake in 1992 epicentered less than ten miles from Yucca Mountain that did a million dollars damage to the Dept. of Energy Yucca Mountain field offices) that it would almost certainly be disqualified from further consideration as an Independent Spent Fuel Storage Installation if it had to live up to the Nuclear Regulatory Commission's licensing rules (Part 72 of Chapter 10 of the Code of Federal Regulations). Yet again, because Yucca Mountain cannot meet existing standards, the standards are lowered or simply removed altogether. Private Fuel Storage,

2 cont. Limited Liability Corporation has applied to the NRC for an exemption from seismic criteria; Yucca Mountain's seismicity is worse than Skull Valley's. If DOE selects the coolest design as the final design, then why couldn't the irradiated fuel simply be cooled for 50 years at the reactor sites where it is presently located? If dry cask storage would be so safe at Yucca Mountain, it would be even safer at less seismically active reactor sites, 75% of which are east of the Mississippi River. Cooling the irradiated fuel at reactor sites is a much more realistic "No-Action Alternative" than the one presented in the DEIS.

This SDEIS introduces a very large waste cooling pond into the Waste Handling Building. Up to 5,000 tons of irradiated nuclear fuel assemblies could be stored therein, and old fuel (cooler) "blended" with young fuel (hotter) so that waste containers
3 emplaced within Yucca Mountain would release similar amounts of heat. Although the design basis accident is considered to be the collapse of the Waste Handling Building in an earthquake, the SDEIS reports the resultant dose released to be less than that reported in the DEIS. How can this be, given the introduction of a 5,000 ton storage pool?! Apparently, DOE assumes in both the DEIS and the SDEIS that only damage to irradiated nuclear fuel in dry storage containers is considered. How can the SDEIS ignore the pool as a risk factor in an earthquake? If the Waste Handling Building collapses in an earthquake, so too will the pool collapse, because both would be built to the same design basis accident specifications. Of course, an earthquake collapse scenario should also include the consequences of damage to all the irradiated nuclear fuel in the pool as well as in dry cask containers. In addition, a recent NRC staff report recognized that even irradiated fuel more than five years cooled is still at risk of spontaneously combusting upon loss of water coolant and contact with air. The radiation release resulting from an earthquake induced breach of the pool and consequent fuel fire should be examined in this SDEIS.

4 How can the SDEIS assume that water needed for repository operations would be taken from the State of Nevada? The DOE's application for water appropriations was denied by the State Engineer because a high-level nuclear waste dump at Yucca Mountain is not in the public interest of the citizens of Nevada. Unless this decision is overruled upon appeal, DOE must locate another source of water. Such possibilities must be examined by the DOE in the FEIS.

5 The SDEIS ignores the huge uncertainties associated with the long-term operation
6 of the Yucca Mountain dump. Conveniently, the DOE simply assumes that no waste containers will fail in the first 10,000 years after emplacement, and thus concludes that there will be no doses to the public in the first 10,000 years. This is circular logic, imperiling public health and the environment. DOE seems content to only address the arbitrarily short 10,000 year timeframe: DOE merely reports peak doses and at what point in the future they can be expected, without attempting to address preventing those doses
7 to the public in the first place. There is no discussion to identify the uncertainties
8 involved. DOE's lack of concern for future generations beyond the arbitrarily short 10,000 year compliance period is frightening and unacceptable. Future generations must not be doomed to massive radiation doses just to expedite moving forward with a politically desired dump at the unsuitable Yucca Mountain site.

9... The low temperature repository design involves very large releases of radon gas. However, only low doses and a small number of latent cancer fatalities are reported in the SDEIS. DOE accomplishes this magic lowering of doses by employing a 20 kilometer

9 cont. dilution/diffusion zone in the air, to lower doses. But this is not appropriate, because the 20 kilometer dilution zone comes from a regulation for waste leaked into the groundwater, not for diffusing radon during construction operations. Radon doses must be calculated immediately next to the dump itself, just beyond the restricted operations area, because that is the actual location where people would be exposed to such doses. This is a serious concern if DOE plans to continue hosting tour groups at the Yucca Mountain site, unless DOE distributes radon-filtering gas masks along with the requisite hard hats to visiting guests.

10 The SDEIS reveals that Yucca Mountain would be the world's first solar and wind powered atomic waste dump. This begs the question: couldn't renewable energy be used to generate electricity in the first place, so that nuclear power can be phased out and no more high-level nuclear waste generated?

11 The SDEIS, just as the DEIS before it, fails to identify the highway and railway routes through 43 or more States and numerous Native American Nation Reservation Lands that would be used to transport irradiated nuclear fuel and high-level atomic waste past the homes of 50 million Americans. These many tens of thousands of shipments crossing the country over the course of thousands of miles are unprecedented, and are an 12 integral part of the Yucca Mountain dump proposal. Issues of a catastrophic radiation release in a severe transport accident, and the consequent health and economic impacts 13 (in dollar amounts) are also inadequately addressed. The lack of emergency preparedness, and the impact upon property values along transport routes, are similarly inadequately 14 addressed. DOE's deferral of transport related issues is a such a fatal flaw in the DEIS that DOE should withdraw the DEIS and re-release it with these vital transportation related impacts addressed.

15 The public process associated with this SDEIS has also been very poorly handled by DOE. On May 2nd, just two days before the SDEIS was released, I attended a meeting at DOE headquarters in Washington with officials of the DOE Office of Civilian Radioactive Waste Management. Despite being asked directly whether or not the Science and Engineering Report would be released on Friday, May 4th, the DOE officials denied any knowledge of the SER's release, which then occurred just two days later. In addition, they made no mention of the completely unexpected SDEIS, to be released just two days later. Is it any wonder that the public becomes so very confused by the DOE Yucca Mountain Project public participation process, when DOE officials fail to communicate basis information even to those members of the public most intimately following the developments?

16 In addition, the original comment period ending on June 25th was way too short given the very technical nature of the SDEIS and the grave import of the Yucca Mountain proposal for our nation. The 11 day extension to the comment period, granted by DOE in the face of a large number of requests from the public for an extension, was woefully inadequate. DOE's decision to only hold three hearings, all in Nevada, with very little advance notice, repeated DOE's earlier decision to limit DEIS hearings to a small number of sites outside Nevada. Concerned citizens, some of them residing in major nuclear waste transport hubs, had to fight tooth and nail to force a stubborn DOE to hold a hearing in their State. Even when granted, the public was given very little notification of 17... the hearings. Many communities that would be heavily impacted by nuclear waste transports to Yucca Mountain have never had the opportunity for a hearing. In fact, if it

17 cont were left up to the DOE, most transport corridor communities would not even know that they live on highways and train lines that would carry waste to Yucca Mountain. The Yucca Mountain decision is of such national significance that SDEIS hearings should have been held around the country.

18 DOE's decision to grant an extension till mid August to an exclusive group of stakeholders is confusing and inequitable. At the very least, DOE should re-open the comment period to all members of the public to make comments until the new deadline.

Thank you for this opportunity to comment.